

# **NATIONAL TRAINING CENTER**

# Protective Force Training Department Standard Operating Procedure

Title:	Live Fire Shoot House		
Number:	PFT-SOP-645		
Revision:	1		
Submitted By:			
Grady Smith, Range Protective Force Tra		Date	11/20/07
Randy Putt, Manage		Date	11/20/07
Protective Force Tra  Reviewed By:	aining Department		
	DRIGINAL SIGNED S&H Program Manager	Date	11/23/07
ESH&QA Departme		Date	
	ORIGINAL SIGNED		11/27/07
Jerry Harbour, Direct Training/Education [		Date	
	DRIGINAL SIGNED	Data	12/20/07
Mark Jamsay, Gene DOE National Traini		Date	
Approved By:			
	DRIGINAL SIGNED		02/27/08
NTC Director or Designee DOE National Training Center U.S. Department of Energy			

# **CONTENTS**

1.0	PURF	PURPOSE1			
2.0	SCOPE				
3.0	CANCELLATION				
4.0	REFE	RENCES	1		
5.0		NITIONS			
6.0		CY			
0.0	POLI	O 1	J		
7.0	RESF	PONSIBILITIES	3		
	7.1	DOE/NTC Director	4		
	7.2	NTC General Manager			
	7.3	Range Master			
	7.4	Protective Force Training Manager			
	7.5	Range Safety Officer			
	7.6	Lead Instructor			
	7.7	Instructors			
	7.8	Assistant Instructor			
	7.9	Shooters			
	7.10	LFR Maintenance Staff			
	7.11	Non-NTC Agencies			
	7.12	Observers			
8.0	OPF	RATIONS	7		
0.0	8.1	LFSH Safety Briefing			
	8.2	Safety Violations			
	8.3	Presence of Paramedic			
	8.4	Qualification Requirements			
	8.5	VIP Presentations and Demonstrations			
	8.6	Instructor-to-Shooter Ratio			
	8.7	Instructor Operational Assignments			
	8.8	Weapons and Ammunition Allowed			
	8.9	Targets and Bullet Traps			
	8.10	Diversionary Devices			
	8.11	Night Operations			
	8.12	Elevated Observation Control Platform			
	8.12				
		Personal Protective Equipment			
	8.14	Duty Equipment			
	8.15	Risk Analyses			
	8.16	Weapons Loading and Unloading			
	8.17	Post-operational Procedures	16		

9.0	APPENDICES	16
	APPENDIX A – ACTIONS TO TAKE IN RESPONSE TO A SIGNIFICANT EVENT	18
	A.1 DEFINITIONS	18
	A.2 POLICIES	18
	A.3 OPERATIONS	18
	A.3.1 Reporting the Event	18
	A.3.2 Investigating the Event	20
	A.3.2.1 General Procedures	20
	A.3.2.2 UD-Specific Procedures	
	APPENDIX B - RANGE SAFETY OFFICER	
	B.1 DEFINITION	22
	B.2 REQUIREMENTS	22
	APPENDIX C – NTC LFSH INSPECTION FORM	24

# **REVISION HISTORY**

Rev. No.	Effective Date	Description of Revision
1	11/19/07	Re-designated and reformatted as 600-level procedure
		<ul> <li>Updated Section 7.4 and Appendices A and B (per SOP 644)</li> </ul>
0	03/26/07	Added blue sheet for Echota Technologies Corporation

#### 1.0 PURPOSE

The Live Fire Shoot House (LFSH) is used to train personnel with simulated realistic, stressful, decision-making scenarios. This standard operating procedure (SOP) describes the methods to be used in conducting safe live-fire exercises inside the LFSH at the Live Fire Range (LFR) at the U.S. Department of Energy (DOE) National Training Center (NTC).

As a tenant of Kirtland Air Force Base (KAFB), the NTC and its employees, contractors, and visitors must recognize and adhere to all applicable regulations. LFR users must obtain approval from the Protective Force Training (PFT) Manager, Range Master, and Environment, Safety, and Health Program Manager (ESHPM) for training to be conducted outside the parameters of this procedure. All requests will be submitted to the DOE/NTC Director through the PFT Manager or NTC General Manager.

#### 2.0 SCOPE

This SOP applies to all LFSH operations except maintenance. Applicable operations include training, demonstrations, rehearsals, testing or evaluation, and live-fire or dry practice exercises under day and night conditions. These procedures apply to LFR instructors and staff (both permanent and adjunct), students (regardless of their place of employment), non-NTC agencies that may use the LFSH, and observers.

Failure to comply with the safety rules presented in this SOP may be cause for removal from the LFSH, and/or failure to comply with the LFSH weapon and ammunition restrictions may result in the loss of training privileges at the LFSH. NTC employees may be subject to disciplinary actions, up to and including termination.

#### 3.0 CANCELLATION

This SOP supersedes NTC SOP 545, Live Fire Shoot House, dated October 2005.

#### 4.0 REFERENCES

- 4.1 DOE O 440.1B, Worker Protection Program for DOE (Including the National Nuclear Security Administration) Federal Employees
- 4.2 10 CFR 851, Worker Safety and Health Program
- 4.3 DOE Order 470.4A, Safeguards and Security Program
- 4.4 DOE Manual 470.4-3 Chg 1, Protective Force (or current version)
- 4.5 DOE Guide 450.4-1B, Integrated Safety Management System
- 4.6 American National Standard Institute (ANSI) Z87.1-2003, Occupational and Educational Eye and Face Protection Devices
- 4.7 National Institute of Justice Standard 0101.04, Rev. A, Ballistic Resistance of Police Body Armor (June 2001)

- 4.8 PFT-SOP-644, Live Fire Range Operations
- 4.9 PFT-SOP-650, Pyrotechnics and Explosives
- 4.10 PFT-SOP-652, Inclement Weather Training Restrictions

#### 5.0 **DEFINITIONS**

- 5.1 DRY PRACTICE. Practice session conducted in the LFSH using unloaded firearms.
- 5.2 ELEVATED OBSERVATION CONTROL PLATFORM. The observation platform that overlooks the rooms in the LFSH. Use of this platform enhances the ability of the instructors to observe and control training operations within the LFSH.
- 5.3 LIVE FIRE. A shooting session conducted in the LFSH using loaded firearms.
- 5.4 LIVE FIRE SHOOT HOUSE INSTRUCTOR. An instructor who has successfully completed Special Response Team Certification (SRTC) training, Special Response Team Instructor Certification (SRTIC) training, and the NTC LFSH written examination, and has completed and documented 40 hours of Assistant Instructor duties. Additional requirements include documented annual completion of 20 hours of live fire operations in the LFSH and semi-annual completion of both the LFSH Qualification Test (SRTC Course) and the DOE "Shooting on the Move" qualification course for pistol and long gun (with minimum scores of 90 percent).
- 5.5 MALFUNCTION. Failure of weapon or magazine to function properly or operate in the manner designed. A malfunction can normally be cleared by the operator.
- 5.6 NON-NTC AGENCIES. Federal, state, and local (law enforcement/military) agencies that have a current Range Use Agreement (RUA) with the NTC to use the LFR facilities and have been authorized by the DOE/NTC Director to conduct training within the LFSH.
- 5.7 SHOOTER. Any participant (with the exception of an instructor) who enters the LFSH as part of the exercise and is carrying a firearm. Any individual who meets this definition is to be considered a shooter for purposes of instructor-to-shooter ratios at all times until the exercise has been terminated.
- 5.8 TARGET ROOM. A room within the LFSH that is constructed of ballistic walls, contains portable bullet traps, and is designed to stop rifle caliber ammunition by impact in either the bullet trap or the ballistic wall.
- 5.9 UNAUTHORIZED DISCHARGE. The discharge of a firearm under circumstances other than (a) during firearms training with the firearm properly pointed downrange (or toward a target), or (b) the intentional firing at hostile parties when deadly force is authorized. (See Appendix A for additional information on Unauthorized Discharges.)
- 5.10 WALK-THROUGH. Practice session conducted in the LFSH with no loaded firearms in the hands of the shooter. Handguns must be holstered, and long guns must be hanging from a sling.

#### 6.0 POLICY

It is the policy of the NTC to conduct firearms and tactical training in the LFSH in accordance with DOE training safety requirements.

All work at the NTC will be conducted in accordance with the DOE Integrated Safety Management System. It is NTC policy to incorporate safety into the planning and execution of all work and to ensure safety from hazards for NTC workers and the environment. The NTC will implement appropriate controls for those hazards that cannot be totally removed.

#### 7.0 RESPONSIBILITIES

Although each individual is responsible for his or her duties listed in this section, these duties may be delegated to another individual who is equally qualified to perform the same function.

The LFR is a designated Property Protection Area (for safety considerations, the wearing of badges may not be required during training). As such, all visits to the LFR must be coordinated with the Range Master or designee. Unauthorized personnel must follow the directions posted at the main gate. All personnel will observe requirements associated with the range flags and flashing beacons.

- (a) All visitors will proceed to Building 100 and sign in with the Training Assistant. The Training Assistant will locate the PFTD sponsor via telephone or radio and coordinate a meeting place. Once business has been completed, the visitor will sign out in Building 100 prior to departure from the LFR.
- (b) Upon arrival at the LFR, maintenance personnel will proceed directly to Building 100 and adhere to procedures. Radios will remain on Channel 4 while at the LFR. When possible, all work at the LFR will be coordinated with the Range Master in advance.
- (c) During regular work hours, DOE LFR users (MOU or RUA holders) will proceed to Building 100 and adhere to procedures (as outlined in Section 7.9.1 of SOP 644). If visitors will be attending training sessions, the sponsoring agency will escort their visitors to Building 100 to complete the sign-in procedure. Upon departure, the visitor will be escorted to Building 100 to sign out.
  - During non-duty hours, sign-in/out procedures will be completed on the Range Use Log (Appendix C of SOP 644). The sponsoring agency will accept responsibility for the visitor.
- (d) Prior to and upon completion of scheduled LFSH operations, the user shall conduct a walk-through inspection of the condition of all walls and bullet traps, recording results on the Shoot House Inspection Form (Appendix C). The completed form shall be turned in to the LFR Training Assistant's office. Failure to comply could result in the suspension of that organization's RUA or MOU; for NTC training, appropriate administrative action may apply. During non-duty hours, the

- completed inspection forms are to be placed in the form box located at the entrance to the LFSH.
- (e) The LFR Safety Officer shall conduct a daily walk-through inspection of the condition of all walls and bullet traps, recording results on the Shoot House Inspection Form (Appendix C). The LFR Safety Officer shall keep the forms in a quickly retrievable file system.
- (f) Delivery personnel will coordinate all deliveries with the Range Master or Training Assistant to ensure proper personnel and equipment are available.

#### 7.1 DOE/NTC Director

- 7.1.1 Ensures this document is available to all DOE/NTC staff.
- 7.1.2 Requires DOE/NTC staff to read and adhere to this document, as appropriate to their area(s) of responsibility.

# 7.2 NTC General Manager

The NTC General Manager is responsible for ensuring the activities that are conducted at NTC's LFSH comply with the requirements of all applicable regulations and this SOP.

# 7.3 Range Master

- 7.3.1 Responsible for the safe operation and maintenance of the LFSH and all activities at the LFR.
- 7.3.2 Ensure the RUAs and MOUs for all users are current and signed.

#### 7.4 Protective Force Training Manager

The PFT Manager is responsible for the safe operation and maintenance of the LFR, including the ranges, armory, and LFSH.

7.4.1 Designates qualified instructors to operate the LFSH. Qualifications for selection as either a Lead Instructor or a Support Instructor will be the same as Paragraphs 8.5.1 and 8.5.2 of this SOP.

# NOTE: Only qualified personnel can operate the LFSH.

7.4.2 Verifies the qualifications of all students before they take part in training. This determination is made by the Lead Instructor for the training to be conducted in the LFSH.

#### 7.5 Range Safety Officer

The Range Safety Officer (RSO) is the designated and trained instructor that is responsible for safety during live fire training in the LFSH. (See Appendix B for a list of duties and responsibilities.)

#### 7.6 Lead Instructor

The Lead Instructor is responsible for the overall conduct of training at the LFSH and must meet the requirements to support training (e.g., targets, ammunition, medical support, support equipment, classrooms, and training aids).

- 7.6.1 Schedule range and classroom requirements at least 60 days in advance.
- 7.6.2 Schedule Paramedic requirements 60 days in advance. (For Paramedic scheduling procedures, see SOP 644, Section 8.7).
- 7.6.3 Provide ammunition requirements to the Range Master, via electronic mail, at least 30 days prior to the start of class.
- 7.6.4 If unique training aids are required, notify the Range Master at least 45 days in advance.
- 7.6.5 Ensure all students and instructors, including members of non-NTC agencies, are qualified to conduct training in the LFSH.
- 7.6.6 Ensure instructor-to-shooter ratio is met in accordance with DOE Order 470.4-3 Chg 1, Protective Force (or current version).
- 7.6.7 Ensure all participants have received a safety briefing.
- 7.6.8 Delegate and assign responsibilities to other instructors.
- 7.6.9 Ensure everyone in the LFSH and on the elevated observation control platform during a live-fire exercise is wearing appropriate PPE.

#### 7.7 Instructors

The Instructor is responsible for the supervision and safe conduct of all training activities, whether live fire or dry runs, within the LFSH.

- 7.7.1 Sign for ammunition used to support training, both at issue and turn in. Another LFR staff member must be present at the issue and turn-in of ammunition. Ammunition will not be left unattended and will be secured or under observation at all times.
- 7.7.2 Position targets and bullet traps to prevent an errant round from crossing the path of another shooter's movement within the target room.
- 7.7.3 Ensure instructor-to-shooter ratio is in accordance with DOE Manual 470.4-3 Chg 1, Protective Force (or current version).
- 7.7.4 Ensure all students and observers have received a safety briefing that includes the LFR safety rules found in SOP 644 and this SOP.
- 7.7.5 Blow the "STOP" whistle and/or announce "CEASE FIRE" in the event of a safety violation.
- 7.7.6 Observe the loading and unloading of weapons.

- 7.7.7 Ensure the LFSH is clear of personnel before training begins.
- 7.7.8 Conduct demonstrations for students, as appropriate.
- 7.7.9 Ensure there is no trash, tripping hazards, expended ammunition, pooled water, or snow or ice on the floor of the LFSH rooms.

**NOTE:** NTC training courses may be conducted on a temporary basis without the presence of a Paramedic with prior approval from the PFT Manager or Range Master. (See Section 8.3 for specific requirements.)

- 7.7.10 Supervise and control the issue, use, turn-in, and disposal of all ammunition and diversionary devices used during training.
- 7.7.11 Ensure shooters have received training on the diversionary devices to be used in the LFSH. This training will include nomenclature, safety features, deployment procedures, procedures for handling unexploded devices (duds), and other relevant item-specific information. Students must not handle dud diversionary devices.
- 7.7.12 Ensure only authorized vehicles are allowed on the range.
- 7.7.13 Ensure students do not remove ammunition, supplies, or other equipment from the range complex.

#### 7.8 Assistant Instructor

The Assistant Instructor is responsible for assisting the Lead Instructor in the safe conduct of LFSH training.

## 7.9 Shooters

**NOTE:** Shooters are usually, but not always, students.

Shooters in the LFSH are responsible for following the directions of instructors and the requirements of this SOP at all times. Failure to do so may be cause for removal from training.

- 7.9.1 If an unsafe act or condition is observed, announce "CEASE FIRE."
- 7.9.2 In the event of a "CEASE FIRE" command or upon hearing a "STOP" whistle, stop movement, stay in place, place trigger finger straight along the frame of the weapon, and await further commands from the instructor.

#### 7.10 LFR Maintenance Staff

LFR Maintenance staff work under the direction of the Range Master.

7.10.1 Ensure the LFSH is free of trash, water, or snow/ice accumulations prior to training.

- 7.10.2 Inspect and maintain the portable bullet traps to ensure their serviceability and their ability to safely contain expended bullets and bullet fragments.
- 7.10.3 Inspect and maintain the LFSH walls, doors, and all wood coverings to ensure bullet fragment containment.

## 7.11 Non-NTC Agencies

Non-NTC agencies may use the LFSH if:

- (a) There is authorization from the DOE/NTC Director in the form of a current RUA or MOU;
- (b) The LFSH has been scheduled through the NTC web site;
- (c) The requirements of DOE Manual 470.4-3 Chg 1, Protective Force (or current version), for first aid and cardiopulmonary resuscitation (CPR) certification have been met, and copies of certifications are on file with the RUA or MOU at the LFR; and
- (d) They request a certified instructor from the LFR (if the requesting agency does not have a current NTC-certified LFSH Instructor). This request must be submitted through the DOE/NTC Director at least 60 days in advance.

#### 7.12 Observers

All observers are responsible for following the safety rules established for the LFR at all times. Failure to comply with these safety rules may result in removal from the LFR.

# 8.0 OPERATIONS

All individuals at the NTC LFR must comply with the safety rules and procedures provided in this section.

**SAFETY NOTE:** The Live Fire Shoot House is located on the R&D Range along with the 12-Position Range and the Vehicle Assault Range. Due to its proximity to the 12-Point Range and Vehicle Assault Range, concurrent training in the Live Fire Shoot House is generally prohibited. However, concurrent training may be permitted when compensatory measures (i.e., one or a combination of adequate ballistic protection, administrative controls, or tactical controls) are emplaced between the Live Fire Shoot House and either the Vehicle Assault Range or 12-Point Range and with prior approval by the Range Master and ES&H staff. Without compensatory measures, persons on the elevated observation control platform must exit the platform for the duration of training on either the Vehicle Assault Range or 12-Point Range.

#### 8.1 LFSH Safety Briefing

Shooters must receive a safety briefing before participating in training. The briefing must include the following (per DOE Manual 470.4-3 Chg 1, Protective Force):

(a) The Four General Firearms Safety Rules:

- (1) All firearms are always loaded.
- (2) Never point the firearm at anything you are not willing to destroy.
- (3) Keep your finger off the trigger until your sights are on the target.
- (4) Be sure of your target.
- (b) The Specific Range Safety Rules:
  - (1) It is mandatory to use approved eye and ear protection and other personal protective equipment as required by the range safety officer.
  - (2) Unsafe conditions must be reported immediately to an instructor.
  - (3) A firearm may only be exchanged with another shooter under the direct supervision of an instructor.
  - (4) Firearms must not be left unattended or unsecured.
  - (5) Firearm loading and firing may commence only on command.
  - (6) Shooters are not permitted to talk during a firing activity except in reply to an instructor as a part of the activity or to shout "cease fire" in an unsafe situation.
  - (7) Until the firing line has been declared safe by the Firearms Instructor, shooters must not move past or bend over the line.
  - (8) All shooters must be trained on what constitutes an unsafe condition and to shout "cease fire" when such a condition is observed.
  - (9) Smoking, eating, or drinking must be prohibited while shooting.
  - (10) Alcoholic beverages and drugs are prohibited on firing ranges. Shooters taking medication must report this fact to the Firearms Instructor before reporting to the firing line. The Firearms Instructor is responsible for determining whether a shooter is fit based on the medication taken and whether it is safe for the shooter to use the range. A physician may be consulted if necessary.
  - (11) Shooters must take precautions to prevent hot spent cartridge and gunshot residues from getting inside their clothing.
  - (12) When a training session is completed, each firearm must be physically examined by the shooter and by a designated range safety officer or qualified Firearms Instructor to ensure that it is unloaded and in safe condition before leaving the range. If the shooter is using a duty firearm on the range, he or she may reload that weapon at the range if returning directly to duty.
  - (13) Shooters must collect unexpended ammunition and return it to a Firearms Instructor.
  - (14) While a firearm is being cleaned, live ammunition must not be allowed in the cleaning area.

- (c) All personnel in the LFSH and on the elevated observation control platform must wear protective body armor.
- (d) Instructions to keep the weapon at the low ready unless engaging a target;
- (e) Instructions to de-cock or safe the firearm as soon as offensive actions have stopped, or anytime the shooter plans to move a significant distance;
- (f) Instructions to await further commands from the instructor when an operation has ended;
- (g) The fact that every participant is a safety officer with stop-work authority;
- (h) Instruction that when a whistle blast is heard and/or a verbal command of "CEASE FIRE" is given, the shooter is to freeze and keep the trigger finger straight along the frame of the weapon;
- (i) Direction that weapons handling and muzzle discipline must be enforced;
- (j) Information that a round that does not impact a bullet trap is a safety violation;
- (k) Direction that the 1-meter rule must be enforced;
- (I) Instruction not to shoot unless the shooter is certain that a shot is safe;
- (m) Instruction that a shooter not turn back after turning in the wrong direction (i.e., the shooter is committed to the new area of responsibility;
- (n) Direction that the shooter should not exceed the area of responsibility;
- (o) Instructions to exercise fire discipline using the fewest number of rounds to solve the problem; and
- (p) Instructions to take appropriate action in the event of a malfunction.

# 8.2 Safety Violations

It is NTC policy that all safety violations will be documented and investigated. Failure to comply could result in the suspension or termination of an organization's RUA or MOU or an individual's range access privileges. Students, instructors, and observers will call "CEASE FIRE" at any time to prevent an unsafe act. Training will not resume until the situation has been safely resolved. The Range Master will be notified of all safety violations.

- 8.2.1 LFR User: Responsible for the safety practices below.
- 8.2.1.1 Adhere to established safety policies and procedures at all times. Repeat violators of LFR safety rules will be removed from training and placed in remedial training programs. Violators may return to normal training activities only upon successful completion of remedial training, with the recommendation of the Lead Instructor, and

- with approval of the PFT Manager. Violation of these rules may result in removal from training activities.
- 8.2.1.2 Alcoholic beverages and drugs are prohibited on NTC training facilities. If taking medication, report this fact to the Instructor before participating in training. Students suspected of being under the influence of drugs, alcohol, or medication will be removed from training until resolved.
- 8.2.2 <u>Instructor</u>: Determine if a student is fit for training based on the medication taken. A physician may be consulted if necessary.
- 8.2.3 <u>ESHPM, PFT Manager, Range Master, and Instructor</u>: Conduct periodic safety audits of LFSH training activities to ensure compliance with LFR safety rules.

#### 8.3 Presence of Paramedic

A Paramedic must be present at the LFR during NTC-sponsored live-fire training. An exception to this requirement may be granted on a temporary basis with prior approval from the Range Master or PFT Manager. The approval will be based on the presence at the active range of an LFR instructor who is currently trained and certified in first aid and CPR and is in possession of a medical trauma kit. The approval will be documented, and copies will be provided to the PFT Manager and the ESH&QA Department.

- 8.3.1 <u>Lead Instructor</u>: Notify the Range Master of any problems or conflicts in scheduling ranges, classrooms, or paramedics.
- 8.3.2 Range Master: Resolve all scheduling conflicts.
- 8.3.3 <u>Paramedic</u>: Attend all NTC live fire and other hazardous training activities for which you have been scheduled.

#### 8.4 Qualification Requirements

- 8.4.1 NTC LFR Instructors: Must have successfully completed Security Police Officer (SPO) III training, Security Police Officer Instructor Certification (SPOIC) training, and the NTC LFSH written examination prior to conducting training in the LFSH, and have completed 40 hours of Assistant Instructor duties. Additional requirements include documented (1) semi-annual completion of both the LFSH qualification test (SRT course) and the DOE "Shooting On The Move" qualification courses for pistol and long gun (with a minimum score of 90 percent), and (2) annual completion of 20 hours of live fire operations within the LFSH. All qualifications and training of LFSH Instructors must be documented.
- 8.4.2 Non-NTC Agency: Will designate a Lead Instructor who holds a current LFSH qualification granted by the NTC and approved by the PFT Manager. Current approved instructors of RUA and MOU users who are authorized for LFSH operations (CQB/team tactical training) will be required to successfully perform the DOE "Shooting on the Move and the DOE approved shoot house test" before their next scheduled use of the NTC LFSH. This standard requires that the instructor/shooter qualify with a minimum score of 90 percent. These tests will be observed and validated by a certified LFR instructor prior to using the NTC LFSH, and the instructor/shooter will be retested annually thereafter. Additionally, the

non-NTC instructor will be given an orientation on LFSH operations prior to using the facilities. Once tested, the non-NTC instructor will comply with all pre- and post-LFSH inspection and reporting requirements described in this SOP.

- 8.4.3 <u>PFT Manager</u>: Determine the qualification of prospective LFSH shooters. Shooters in LFSH exercises should meet the guidelines below. LFSH shooters must meet the guidelines below.
- 8.4.3.1 If attending courses designed for DOE or DOE contractors at the NTC, must have successfully completed all firearms training up to the point at which LFSH training begins.
- 8.4.3.2 For LFSH firearms qualification, must demonstrate a marksmanship proficiency level of at least 90 percent of the marksmanship requirements of the DOE SRT "Shooting on the Move" qualification courses of fire.

#### 8.5 VIP Presentations and Demonstrations

Presentations and demonstrations for VIPs will be conducted by NTC LFR Instructors who have maintained the qualifications required in Section 8.4.1 above. Any participant that does not meet the requirements of Section 8.4.1 must have the approval of the DOE/NTC Director prior to participating in the demonstration. LFR Instructors will only demonstrate tactics and techniques taught at the NTC and approved by the DOE/NTC Director.

#### 8.6 Instructor-to-Shooter Ratio

All LFR users must comply with the instructor-to-shooter ratios found in the DOE Manual 470.4-3 Chg 1, Protective Force (or current version). The minimum ratios will be 1-to-4 for all SRT operations and 1-to-1 for all non-SRT operations. Ratios may be increased (that is, more instructors may be assigned), as necessary, based on the instructor's evaluation of student's language barrier, physical abilities, skill level, weapon manipulation, and overall adherence to safety.

When exceeding the minimum ratios (that is, when more instructors are assigned), there must be a Lead Instructor and RSO present during all operations, and these individuals will not be included in the instructor-to-shooter ratios. The Lead Instructor may also perform RSO duties if approved by the Range Master.

# 8.7 Instructor Operational Assignments

All LFSH instructors are responsible for (1) ensuring the safety of shooters, observers, and instructors at all times; (2) ensuring student adherence to safety rules; and (3) evaluating student performance during training.

- 8.7.1 <u>Lead Instructor</u>: Responsible for the actions below.
- 8.7.1.1 Must be present during all operations.
- 8.7.1.2 Designate responsibilities to other instructors.

- 8.7.1.3 Ensure all training operations are designed and conducted in accordance with approved lesson plans, risk analyses, and SOPs.
- 8.7.1.4 Ensure all students are properly equipped to safely undergo training.
- 8.7.1.5 Ensure assistant instructors are briefed on their responsibilities for the safe conduct of the training, are properly equipped (including whistles), and are wearing required PPE.
- 8.7.1.6 Assign at least one instructor to act as the Control Instructor. The Control Instructor will give commands of execution and observe actions on the ground. There will be at least one Control Instructor on the ground with the shooters at all times. The close proximity of the Control Instructor(s) to the shooters allows a rapid response to unsafe conditions and/or acts.
- 8.7.2 <u>Assistant Instructor</u>: Observe the training operation from the elevated observation control platform (this position provides an optimum view for identifying safety infractions). You will be assigned to specific areas on the platform for observing training. There will be at least one instructor assigned to the elevated observation control platform during all live-fire SRT training.

#### 8.8 Weapons and Ammunition Allowed

**NOTE #1:** Failure to comply with the LFSH weapon and ammunition restrictions may result in the loss of training privileges at the LFSH. Concealed weapons are <u>prohibited</u> at NTC facilities.

**NOTE #2:** All classroom demonstrations must be performed with unloaded or simulated weapons. Before using a firearm for classroom demonstration, clear it into a bullet containment device and ask a student or other instructor to verify that the weapon and magazine to be used have been cleared. Only clearly identifiable inert training rounds may be used for classroom demonstrations.

- 8.8.1 As a tenant of KAFB, NTC employees and users <u>must</u> adhere to all applicable regulations pertaining to transportation and carrying of personal weapons. Privately owned weapons <u>may not</u> be used at the NTC LFSH (or elsewhere at the LFR) unless approved, in writing, by the DOE/NTC Director.
- 8.8.2 Upon request, written approval by their authorizing agency is required for non-DOE LFR users that carry privately owned weapons for duty purposes.
- 8.8.3 Only DOE ammunition will be used with DOE weapons. All personal weapon users will provide their own ammunition, if approved by the DOE/NTC Director.
- 8.8.4 All weapons and ammunition must be stored in an approved location.
- 8.8.5 The NTC LFSH is designed and built for the use of handgun-caliber, non-lead, frangible ammunition, and DOE-approved 5.56mm frangible non-lead rifle ammunition. All personnel within the LFSH will ensure that only approved firearms and ammunition are used during training.

- (a) <u>Weapons Allowed</u>: DOE-approved conventional caliber handguns, handgun caliber submachine guns, rifles firing DOE-approved frangible non-lead 5.56mm ammunition, and shotguns firing breaching rounds. In addition, weapons modified to fire dyemarking cartridges (DMC), and weapons firing 37mm or 40mm training and practice (TP) rounds, may be used if approved by the DOE/NTC Director.
- (b) Ammunition Allowed: DOE-approved, frangible, non-lead handgun ammunition. DOE-approved 5.56mm frangible, non-lead rifle ammunition. In addition, shotgun-breaching rounds, DMC ammunition, 37mm and 40mm TP ammunition, and approved diversionary devices may be used if approved by the NTC Director. Dye-marking cartridges may be used on a case-by-case basis if approved by the DOE/NTC Director.
- (c) <u>Not Allowed</u>: Lead, hollow point, semi-wadcutter, non-approved rifle caliber, or non-frangible ammunition. (See SOP 644, Appendix F–Prohibited Ammunition in Live Fire Shoot House.)

# 8.9 Targets and Bullet Traps

- 8.9.1 Various types of approved targets may be used in the LFSH. Target placement must meet the requirements of this section for each type of target used. If a target or target system fails to meet these requirements, it cannot be used in the LFSH. Targets will be placed on bullet traps so the maximum effective area of the trap is utilized to contain rounds and prevent rounds from penetrating the construction joints of the trap.
  - (a) <u>Paper Targets</u>. Paper targets are stapled to the bullet trap and centered, left to right, on the bullet trap. The head-scoring zone of the target must be placed a minimum of 6 inches (15 centimeters) below the top of the bullet trap.
  - (b) <u>Three-dimensional (3-D) Targets</u>. 3-D targets may be used in front of the bullet traps or other backstop materials approved by the NTC Range Master. The targets must be placed in front of, and centered on, bullet traps.
  - (c) <u>Drop Targets</u>. Drop targets may be used when they connect to the bullet trap by magnet, balloon and string, or by use of a target stand which is erected in front of the bullet trap. Target placement must be such that it is as close to a 90-degree firing angle as possible. The drop target system must operate in such a manner that the shooter can recognize when the target is no longer a threat and does not require additional rounds on target. The drop target system may use a blinder, which hides the target after it has fallen from the bullet trap, or the target may fall to the ground in front of or to the side of the bullet trap. With either system, the shooters must be aware that once the target falls from the bullet trap, there will be no more rounds fired at that target.
  - (d) <u>Bullet Traps</u>. Only bullet traps approved by the Range Master are allowed in the LFSH. Any bullet trap in need of repair will not be used and will be taken out of service. Bullet trap legs should be placed approximately 8 to 12 inches (20 to 30 centimeters) from the wall to ensure they will not tip forward when struck by projectiles. Bullet traps may be laid on their side to simulate prone positions. When a bullet trap is laid on its side, the lower edge of the bullet trap should be at least 8 to

- 12 inches (20 to 30 centimeters) from the wall to prevent it from tipping forward when struck by projectiles.
- (e) <u>Bullet Trap Positioning</u>. Bullet traps will be positioned so that if a round misses a target, it will not cross the path of another person's movement. Bullet traps will be positioned so that a shooter cannot engage a target at less than a 60-degree angle. Blinders, obstructions, or other means may be used to accomplish this angle limitation. Bullet traps will not be positioned to allow a shooter to fire from a weapon retention position at the head of a target. This would allow weapon elevation beyond parallel to the LFSH floor.
- 8.9.2 In the event a shooter misses the bullet trap, the following procedures should be followed:
- 8.9.2.1 Once discovered by NTC contract personnel, NTC Training Program staff shall be notified immediately.
- 8.9.2.2 If caused by a NTC student while training under an approved NTC lesson plan, that student shall no longer be allowed to participate in LFSH drills. Students will be briefed this requirement in advance.
- 8.9.2.3 If caused by a RUA or MOU holder after the fact, that user shall no longer be authorized access to the LFSH until otherwise authorized by NTC Training Programs. Costs for damages may be charged to the RUA or MOU holder.
- 8.9.2.4 The NTC contractor shall repair all holes in the interior walls of the LFSH.
- 8.9.2.5 If bullet traps are discovered to have been hit with non-frangible rifle rounds, the NTC Training Program staff shall be notified immediately.

# 8.10 Diversionary Devices

- 8.10.1 Shooter: Must wear PPE during diversionary device deployment. PPE will include serviceable, durable, fire-resistant (NOMEX) gloves, long-sleeve shirts, eye protection that meets the requirements of ANSI Standard Z87.1-2003, and ear protection with a minimum Noise Reduction Rating (NRR) of 26.
- 8.10.2 <u>Shooter</u>: May not deploy operational (full power) diversionary devices into rooms or hallways that are occupied by personnel.

# 8.11 Night Operations

<u>Lead Instructor</u>: Prior to nighttime LFSH training, the following actions must be accomplished.

- 8.11.1 Verify the LFSH lighting system is operational.
- 8.11.2 Verify the weapons mounted lighting systems are operational.
- 8.11.3 Ensure different colored chemical light sticks are available for ready identification of instructors, students, and observers.

8.11.4 Practice the training activity in daylight prior to conducting the night training.

#### 8.12 Elevated Observation Control Platform

All individuals on the elevated observation control platform during live fire training operations must comply with the PPE requirements set forth in Section 8.13 of this document.

**NOTE:** Without compensatory measures, no one is permitted on the elevated observation control platform when live-fire training is in progress on the 12-Position Range to the west of the LFSH or on the Vehicle Assault Range to the east of the LFSH (see Safety Note in Section 8.0).

- 8.12.1 <u>Lead Instructor</u>: Responsible for the safety of all instructors, shooters, students, and observers at all times.
- 8.12.2 <u>Observer</u>: Follow the directions of the Lead Instructor at all times. The Lead Instructor will designate where observers are to stand during observation of training.
- 8.12.3 <u>Observer</u>: Never attempt to communicate with a shooter without the permission of an instructor. If a potentially hazardous situation is noticed, immediately notify an instructor.
- 8.12.4 <u>Instructor or Observer</u>: Do not stand directly above a bullet trap while that trap is being engaged by a shooter. This will help to mitigate the possibility of injury from fragments.

# 8.13 Personal Protective Equipment

All Personnel: Use the following PPE when training in the LFSH.

- (a) <u>Hearing Protection</u>. All individuals in the LFSH and on the elevated observation control platform must wear hearing protection. Other areas designated as "hearing protection required" by instructors will also require appropriate protection. Protection may take the form of earplugs, earmuffs, or canal caps. Hearing protection must have a minimum NRR of 26.
- (b) <u>Eye Protection</u>. All personnel in the LFSH and on the elevated observation control platform must wear eye protection. Eye protection must meet ANSI Standard Z87.1-2003 and include side shields or be "wraparounds."

#### 8.14 Duty Equipment

All Personnel: Use the following duty equipment when training in the LFSH.

- (a) All personnel in the LFSH and on the elevated observation control platform must wear protective body armor. Body armor must be no less than Level III A. During a walk-through, body armor may be removed to reduce the chance of heat-related injuries.
- (b) Non-slip, above-the-ankle boots must be worn by personnel directly involved in LFSH training activities.

- (c) Personnel in the LFSH who deploy diversionary devices must wear durable, serviceable, fire-resistant gloves, long-sleeve shirts, and appropriate eye and hearing protection.
- (d) Personnel in the LFSH who are shooters participating in NTC SRT courses will wear helmets to afford protection against blunt head trauma.

# 8.15 Risk Analyses

All LFSH users will adhere to the risk controls identified in LFSH training risk analyses.

## 8.16 Weapons Loading and Unloading

- 8.16.1 <u>Shooter</u>: Load and unload all weapons as follows:
  - (a) On a range, pointed downrange within appropriate limit poles;
  - (b) Into an appropriate bullet containment device;
  - (c) Under the supervision of an instructor;
  - (d) In a designated area and direction at the LFSH.
- 8.16.2 <u>Instructor</u>: Ensure that shooters unload, clear, and safe firearms before breaks, meals, placement in rifle racks, brass call, weapons cleaning, and end of training.

## 8.17 Post-operational Procedures

<u>Lead Instructor</u>: At the conclusion of training at the LFSH, ensure the following:

- 8.17.1 All weapons are safe, cleared, and inspected for live ammunition.
- 8.17.2 All weapons, ammunition, diversionary devices, body armor, and any other equipment used during the training day have been accounted for.
- 8.17.3 All weapons, ammunition, and equipment are properly stored.
- 8.17.4 All brass has been collected and all debris within the LFSH has been removed.
- 8.17.5 All injuries sustained by students during the training activity have been reported.
- 8.17.6 Prior to and upon completion of scheduled LFSH operations, the user shall conduct a walk-through inspection of the condition of all walls and bullet traps, recording results on the LFSH Inspection Form (Appendix C). The completed form shall be turned in to the LFR Training Assistant's office. Failure to comply could result in the suspension of that organization's RUA or MOU; for NTC training, appropriate administrative action may apply. During non-duty hours, the completed inspection forms are to be placed in the form box located at the entrance to the LFSH.

#### 9.0 APPENDICES

- A Actions to Take in Response to a Significant Event
- B Range Safety Officer

C - NTC LFSH Inspection Form

#### APPENDIX A – ACTIONS TO TAKE IN RESPONSE TO A SIGNIFICANT EVENT

#### A.1 DEFINITIONS

MALFUNCTION / FAILURE. For reporting purposes, an event that results in personal injury or damage to property or firearms.

NEAR MISS. An incident that does not result in personal injury, property damage, or schedule delay but has the potential to do so.

SIGNIFICANT EVENT. An unplanned or unintended event that occurs at the NTC LFR. Significant events include unauthorized discharges, weapons malfunctions or failures, accidents, injuries, unusual incidents, and near misses.

UNAUTHORIZED DISCHARGE (UD). The discharge of a firearm under circumstances other than (a) during firearms training with the firearm properly pointed downrange (or toward a target), or (b) the intentional firing at hostile parties when deadly force is authorized.

#### A.2 POLICIES

Individuals involved in a significant event should immediately take appropriate emergency actions to preserve the safety and well-being of the individuals and equipment involved in the event. Following these actions, NTC employees are responsible for reporting all details associated with the significant event and complying with all investigative measures.

An investigative team will be comprised of, at a minimum, one member of the ESH&QA Department, the PFT Department, and the Armory, as applicable.

#### A.3 OPERATIONS

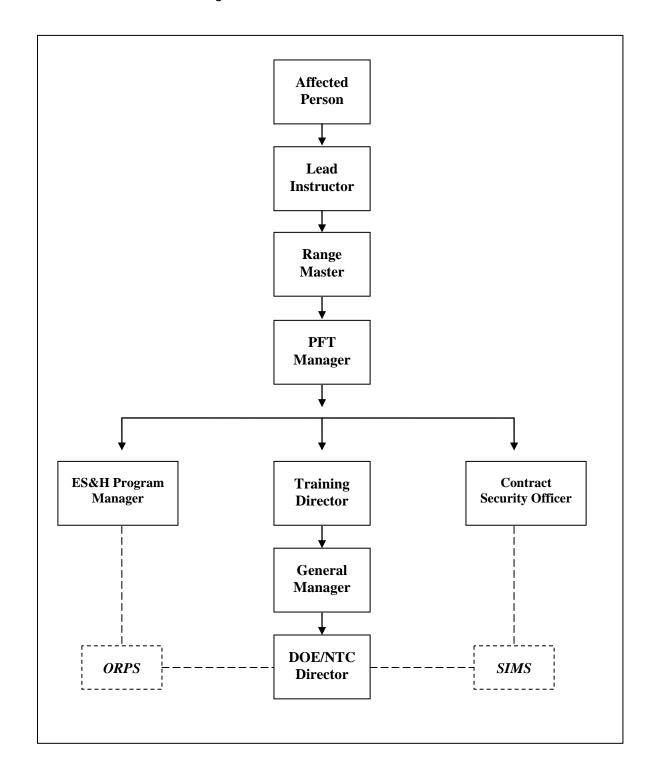
# A.3.1 Reporting the Event

In the event of a significant event, NTC employees are responsible for reporting the event and complying with the NTC reporting procedures. All other users of the NTC LFR are responsible for reporting the event to the LFR staff and complying with their specific agency reporting policies.

- 1. Personnel involved in or witnessing a **significant event** will immediately report the event to a Supervisor and/or Range Officer.
- 2. The reporting process will include notification through the chain-of-command, as appropriate, starting with the individual reporting the event:
  - Lead Instructor
  - Range Master
  - PFT Manager
  - ESHPM, Training Director, and Contract Security Officer
  - NTC General Manager

# • DOE/NTC Director

Each individual is responsible for immediately notifying the next entity in the chain-of-command, as show in the figure.



3. In accordance with DOE directives, the ESHPM will complete an occurrence report and submit it to the Occurrence Reporting Processing System (ORPS), and the Security Manager will complete an occurrence report and submit it to the Security Incident Management System (SIMS). The ESHPM and Security Manager will obtain signatures from the DOE Director on the reports prior to submitting them to ORPS and SIMS, as necessary.

# A.3.2 Investigating the Event

#### A.3.2.1 General Procedures

- 1. Secure the incident scene as an "accident scene" in order to preserve evidence.
- 2. Obtain written statements from all involved parties (instructors, students, and observers) as soon as practicable. Interviews will be accurately documented in detail.
- 3. Collect evidence (including but not limited to):
  - Photographs, if possible;
  - Accurate, measured diagrams of the scene showing locations of all instructors, students, and observers; target locations; direction of fire; and bullet(s) and fragment(s) impact(s) locations;
  - Ammunition details, including lot number, firearm type (including features and serial number), and firearm condition immediately after a UD; and
  - Environmental conditions such as temperature, wind speed and direction, and lighting conditions.
- 4. For incidents involving firearms, secure weapons for inspection and function check (if appropriate).
- 5. Perform testing to duplicate events only with concurrence of the cognizant contractor and DOE officials, under written test plans, and in a manner to preserve evidence.
- 6. The cognizant DOE authority (for example, NTC Director) must authorize:
  - The release of the incident scene;
  - The release of firearms, related equipment, and other evidence for use;
  - Affected personnel to return to duty; and
  - Resumption of the suspended activity.

#### A.3.2.2 UD-Specific Procedures

1. <u>Lead Instructor</u>: Remove the individual firing the UD and other involved parties from training or immediately relieve them of duty to allow the incident investigation to commence.

- 2. <u>Lead Instructor</u>: Immediately cease the training, qualification, or equivalent activities in which the UD occurred in order to allow the incident investigation to commence.
- 3. <u>Lead Instructor</u>: Clear the firearm(s) that fired and make them safe under the observation of a Firearms Instructor.
- 4. <u>Firearms Instructor</u>: Record the condition of the firearm(s) and any comments on any observed firearm-related topics (for example, malfunctions).
- 5. <u>Lead Instructor</u>: Immediately take the firearm(s) that fired the UD and any involved equipment (such as holsters, tactical bags, body armor, equipment vests, etc.) into custody as evidence and control it to preserve and record the chain of custody.
- 6. <u>Lead Instructor</u>: Provide the firearm(s) involved in the UD to an NTC Gunsmith for a function check.
- 7. <u>Gunsmith</u>: Document the function check findings.
- 8. Cognizant DOE Authority (for example, NTC Director) must authorize:
  - The release of the incident scene:
  - The release of firearms, related equipment, and other evidence for use;
  - Personnel to return to duty; and
  - Resumption of the activity.

## APPENDIX B - RANGE SAFETY OFFICER

# **B.1 DEFINITION**

The Range Safety Officer (RSO) is the designated and specifically trained individual that is responsible for safety at a live-fire range (LFR) (DOE Manual 470.4-3, Chg 1).

#### **B.2 REQUIREMENTS**

The RSO for the LFR at the Department of Energy National Training Center (DOE/NTC) will be an instructor with specific, delineated responsibilities for range safety. This will include monitoring the safety performance of shooters as well as the overall safety of the firing range. The RSO will be present during all range firearms training, including qualifications.

#### **B.3 RESPONSIBILITIES**

- 1. Be familiar with the "Four General Firearms Safety Rules" and the "Fourteen Specific Safety Rules."
- 2. Be knowledgeable of NTC standard operating procedures.
- 3. Be knowledgeable of the range limit poles at the DOE/NTC LFR.
- 4. Be knowledgeable of the types of weapons and targets that may be used on specific ranges.
- 5. Be knowledgeable of instructor-to-shooter ratios for DOE/NTC live fire activities.
- 6. Possess a hand-held radio capable of communicating with the paramedic on duty and LFR staff.
- 7. Ensure a qualified Firearms Instructor gives a safety briefing to all students and observers prior to conducting any training/qualification activity.
- 8. Visually inspect the designated range for any safety hazards that may exist (for example, tripping or falling hazards).
- 9. Ensure a red flag is flying during daylight training and the red beacon is on during night training.
- 10. Report emergencies at the LFR by dialing **911**. The following NTC staff should also be informed of emergency situations as appropriate and as soon as possible.

Protective Force Training Manager 845-5170 (ext. 600)
Range Master 845-5170 (ext. 605)
ES&H Program Manager 845-5170 (ext. 154)
ES&H Safety Specialist 845-5170 (ext. 153 or 155)

ES&H Cell Phone 238-0483

Report after-hour emergencies by contacting the DOE Transportation Emergency Control Center (TECC). The TECC is a 24-hour operations center whose staff initiates all required onsite and offsite emergency notifications. The TECC will ensure that all necessary NTC parties are notified.

# The TECC 24-hour emergency number is (505) 845-4667.

- 11. Ensure a paramedic is on duty for NTC training. If training is being conducted without the presence of a paramedic, an NTC LFR instructor must be present who is currently trained/certified in first aid and cardiopulmonary resuscitation and has a medical trauma kit in his/her possession. Prior approval from the Range Master or PFT Manager is required.
- 12. Ensure that all individuals, including observers, have required personal protective equipment.
- 13. In coordination with the Lead Instructor, ensure training is suspended and all personnel are removed from the firing line to a designated safe area during electrical storms or when lightning is present.
- 14. In coordination with the Lead Instructor, make the determination when to stop firing due to adverse weather conditions.
- 15. During extreme heat conditions, ensure water is available and personnel involved in firearms training are given a break at least every 60 minutes.
- 16. Ensure all observers are located in a designated safe area.
- 17. When the training is complete, ensure each firearm is in a safe condition (safety on, ammunition/magazine removed, action open, and chambers clear), and is physically examined by the shooter and the RSO or qualified Firearms Instructor before leaving the LFR. (Shooters may reload the firearm at a clearing barrel if returning directly to duty.)
- 18. If shooters are to use the weapons cleaning room, the RSO or an instructor will ensure weapons are inspected at the cleaning barrel prior to entering the cleaning room.

#### For night firing:

- 19. Ensure a rotating red light is visible while firing is in process.
- 20. Conduct a visual inspection of the target area with a flashlight and a audible check to ensure no individuals are in the impact area prior to commencement of night firing.

# **APPENDIX C - NTC LFSH INSPECTION FORM**

Organization:		
<b>NOTE:</b> Damage to moveable walls or partitions <u>must</u> be indicated on this schematic.  Comments:		
Prior to training in the NTC LFSH, the user and an NTC representative shall perform a walk-through of the facility and identify all bullet holes in walls or other damage.		
This form shall be turned into the LFR Training Assistant. Upon completion of training, the NTC representative shall perform another walk-through of the facility and identify any bullet holes in walls or other damage. Failure of the organization to document all damage found in the facility could result in termination of use privileges and collection of repair cost from their agency. Any questions should be directed to the LFR Range Master.		
Organization Representative (printed)		
User Signature		
Date/Time of UseAmmunition Used (specific)		
NTC Representative Signature		